

REMARKS

Prior to entry of this amendment, claims 1, 3-8 and 10-20 are pending in the subject application. By this Amendment, claim 20 is amended. The amendment is solely for clarification purpose only, and not related to patentability. No new matter is added.

Claims 1, 3-8 and 10-20 are presented to the Examiner for further consideration on the merits. Claims 1 and 8 are independent.

A. Introduction

In the outstanding Office Action Made Final, the Examiner rejected claims 16 and 20 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention; rejected claims 1, 8 and 12-15 and 17-18 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Publication No. 2004/0217932 to Nally et al. ("the Nally et al. reference") in view of U.S. Patent No. 6,348,959 to Melnick et al. ("the Melnick et al. reference"); rejected claims 3-5, 7 and 10-11 under 35 U.S.C. § 103(a) as being unpatentable over the Nally et al. reference in view of the Melnick et al reference and further in view of U.S. Patent No. 5,841,492 to Iwauchi et al. ("the Iwauchi et al. reference"); rejected claim 6 under 35 U.S.C. § 103(a) as being unpatentable over the Nally et al. reference in view of the Melnick et al. reference in view of the Iwauchi et al. reference, and further in view of U.S. Patent No. 5,131,736 to Alvarez ("the Alvarez reference"); and rejected claims 16 and 19-20 under 35 U.S.C. § 103(a) as being unpatentable over the Nally et al. reference in view of the Melnick et al. reference and further in view of U.S. Patent No. 6,947,034 to Kwon ("the Kwon reference").

B. Asserted Indefiniteness Rejections of Claims 16 and 20

In the outstanding Office action, the Examiner rejected claims 16 and 20 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

With regard to claim 16, the Examiner asserted that the two no-light display periods are included in the same non-display period, and thus, it appears as though the non-display period now encompasses the display period.

Applicants submit that claim 16 is definite and clear regarding the no-light display periods. For instance, FIG. 4 of Applicants' specification clearly illustrates a display period " t_c " and a non-display period having a "first" no-light display period " t_{off} " and a "second" no-light display period " t_{off} " such that the display period " t_c " is between the first and second no-light display periods " t_{off} ." Accordingly, Applicants submit that claim 16 is definite and clear.

With regard to claim 20, Applicants have amended claim 20 to obviate the rejection. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections.

C. Asserted Obviousness Rejection of Claims 1, 8, 12-15 and 17-18

In the outstanding Office Action Made Final, the Examiner rejected claims 1, 8, 12-15 and 17-18 under 35 U.S.C. § 103(a) as being unpatentable over the Nally et al. reference in view of the Melnick et al. reference. The rejection is respectfully traversed for at least the following reasons.

Applicants respectfully submit that the Nally et al. reference and the Melnick et al. reference, individually or in combination, fail to disclose or suggest, *inter alia*, "a non-display period including a white light display period and a no-light display period during which the driver drives the LCD panel to display white light during the white light display period and then no light during the no-light display period at a different and distinct time period after the white light display period of the non-display period," as recited in claim 1 and similarly recited in claim 8.

In the Office Action¹, the Examiner admitted that "Nally does not expressly disclose, that the no-light display period occurs after the white light display period." However, the Examiner attempted to overcome the admitted deficiencies of the Nally et al. reference by arguing that the Melnick et al. reference teaches the "no-light display period to display white light during the white light display period and then no light during the no-light display period at a different and distinct time period *after* the white light display period of the non-display period." Applicants respectfully disagree.

Specifically, the Examiner directed Applicants to col. 1, lines 27-42 in the Melnick et al. reference as teaching the above stated features. However, col. 1, lines 27-42 states:

LC effects which can switch to dark as fast as possible are desirable for single panel operation because they can block the unwanted colors during scanning most effectively with minimal use of dark regions between the scanning colors (guard bands). This results in high color purity and higher brightness when compared with slower responding devices, such as transmissive LCDS. The physical properties of liquid crystals imply that the electric field applied transition should be to a dark state in order to meet this requirement. Thus, optimally, all candidate effects should be "normally white", i.e., fully transmissive with no field applied. This means that with the highest voltage on the electrodes, no light is directed to the viewer from these areas/pixels and therefore they appear dark.

Applicants have read the above passage and the entire disclosure of the Melnick et al. reference, and cannot determine how or where the Melnick et al. reference suggests or teach of "displaying white light during white light display period and then no light during a no-light display period," let alone, "a non-display period having a no-light display period and a white light display period."

Instead, the "*dark*" (or black) region in the Melnick et al. reference relates to a border structure surrounding an active display area so that the border may be effective to shield areas of the display device from incident light.² In other words, the "*dark region*" of the Melnick et al. is merely an area where no light is received, rather than, a "*period*," particularly, a "*non-*

¹ See Office Action Made Final, mailed July 13, 2007, page 4, first paragraph.

² See col. 2, lines 21-24 in the Melnick et al. reference.

display period" including a white light display period and a no-light display period.

Accordingly, Applicants submit that the "dark region" of the Melnick et al. reference does not correspond to a "*non-display period*," as taught in claims 1 and 8.

Further, in the Office Action³, the Examiner stated that the Melnick et al. reference discloses "normally white display is preferred over normally black displays." However, Applicants submit that the Examiner's assertion is incorrect. Specifically, the non-display periods may be required in Applicants' invention as the non-display periods (corresponding to the normally black display of the Melnick et al. reference) may be shorter than the period t_c (corresponding to the normally white display of the Melnick et al. reference). Further, during the non-display periods, a reset step of discharging electric charges at the LCD panel may be performed.⁴

Accordingly, because the Melnick et al. reference drives the LCD panel in a completely different manner, the Melnick et al. reference fails to teach or suggest the feature of "no-light display period to display white light during the white light display period and then no light during the no-light display period at a different and distinct time period after the white light display period of the non-display period," as recited in claim 1 and similarly recited in claim 8.

Applicants further submit that the Nally et al. reference also operates in a completely different manner to drive the LCD panel. Specifically, in an example, non-limiting embodiment, as shown in FIG. 4, the non-display periods of the present invention may include period " t_c ", during which all of the red, green and blue lights are displayed, and period " t_{off} ", during which none of the red, green and blue lights are displayed⁵ (which corresponds to the fixed data periods shown in FIG. 7 of the Nally et al. reference including the black and white display periods). However, example embodiments of the present

³ See Office Action Made Final, mailed July 13, 2007, page 4, paragraph 2.

⁴ See Applicants' specification, paragraph [0036].

⁵ See Applicants' specification, paragraph [0036].

invention disclose periods “ t_w ”, “ t_{on} ”, “ t_c ” and “ t_{off} ” in sequence to compose one ‘frame’ (as shown in FIG. 4), whereas the Nally et al. reference (as shown in FIG. 7) discloses one frame including a white field (corresponding to period “ t_w ”) and color fields (corresponding to period “ t_c ”). Accordingly, the Nally et al. reference uses a completely different method of driving to construct the frame.

Even assuming *arguendo* that the Examiner’s position is correct (in which Applicants do not agree or admit to), the Examiner has failed to provide any evidence of motivation why a display device having a border structure with a dam around an active display area of the Melnick et al. reference should be used in a TFT display controller in the Nally et al. reference, or more specifically, evidence as to why one of ordinary skill in the art would be motivated to incorporate the display controller in the Nally et al. reference into the display device with dark borders of the Melnick et al. reference. Accordingly, Applicants submit that the Examiner has failed to provide a proper *prima facie* case of obviousness under 35 U.S.C. §103.

Further, the Examiner is using *impermissible hindsight* reconstruction to reject the features recited in claims 1 and 8. The Examiner’s assertion that “it would have [been] obvious to replace the normally black display of Nally with the normally white display of Melnick,”⁶ is not evidence for obviousness. Applicants disagree with the Examiner’s reasoning, and submit that the mere possibility that one element in one reference could be used in another is not sufficient evidence of a suggestion or motivation to combine the two references. Applicants submit that the Examiner has used the present application as a blueprint, and selected a display controller as the main device and then searched other prior art for the missing feature (e.g., no-light display period occurring *after* the white light display period) without identifying or discussing any specific evidence of motivation to combine, other than providing conclusionary statement regarding the knowledge of the art, motivation

⁶ See Office Action Made Final, mailed July 13, 2007, page 4, paragraph 4.

and obviousness. The Federal Circuit has noted that the PTO and the courts “cannot use hindsight reasoning or hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention,” In re Fine, 5 USPQ2d 1780 (Fed. Cir. 1988), and that the best defense against hindsight based on obviousness analysis is the rigorous application of the requirement for a showing of a teaching or motivation to combine the prior art references. Thus, Applicants submit that the Examiner has failed to provide any evidence of motivation for combining the teachings of the Melnick et al. reference with the teachings of the Nally et al. reference. Accordingly, the Examiner has not adequately supported the selection and combination of the Nally et al. and the Melnick et al. references to render the claim obvious.

Thus, for at least the reasons discussed above, Applicants submit that the combination of the Nally et al. and the Melnick et al. references fails to disclose or suggest all the features of claims 1, 8, 12-15 and 17-18. Accordingly, Applicants respectfully request that the rejection be withdrawn.

D. Asserted Obviousness Rejection of Claims 3-5, 7, 10 and 11

In the outstanding Office Action Made Final, the Examiner rejected claims 3-5, 7, 10 and 11 under 35 U.S.C. § 103(a) as being unpatentable over the Nally et al. reference in view of the Melnick et al. reference and further in view of the Iwauchi et al. reference. The rejection is respectfully traversed for at least the following reasons.

As discussed above, Applicants submit that the Nally et al. reference and the Melnick et al. reference fail to disclose or suggest all the features of claims 1 and 8, from which claims 3-5, 7, 10 and 11 directly depend. Applicants submit that the Iwauchi et al. reference fails to overcome the deficiencies of the Nally et al. reference and the Melnick et al. reference, as applied to claims 1 and 8. Thus, for at least the reasons discussed above, Applicants submit that the combination of the Nally et al. reference, the Melnick et al., and the Iwauchi et al.

reference fails to disclose or suggest all the features of claims 3-5, 7, 10 and 11.

Accordingly, Applicants respectfully request that the rejection be withdrawn.

E. Asserted Obviousness Rejection of Claim 6

In the outstanding Office Action Made Final, the Examiner rejected claim 6 under 35 U.S.C. § 103(a) as being unpatentable over the Nally et al. reference in view of the Melnick et al. reference in view of the Iwauchi et al. reference, and further in view of the Alvarez reference. The rejection is respectfully traversed for at least the following reasons.

As discussed above, Applicants submit that the Nally et al. reference, the Melnick et al. reference and the Iwauchi et al. reference fail to disclose or suggest all the features of claims 1 and 8, from which claim 6 directly depends. Applicants submit that the Alvarez reference fails to overcome the deficiencies of the the Nally et al. reference, the Melnick et al. reference and the Iwauchi et al. reference, as applied to claims 1 and 8. Thus, for at least the reasons discussed above, Applicants submit that the combination of the Nally et al. reference, the Melnick et al. reference, the Iwauchi et al. reference and the Alvarez reference fails to disclose or suggest all the features of claim 6. Accordingly, Applicants respectfully request that the rejection be withdrawn.

F. Asserted Obviousness Rejection of Claims 16 and 19-20

In the outstanding Office Action Made Final, the Examiner rejected claims 16 and 19-20 under 35 U.S.C. § 103(a) as being unpatentable over the Nally et al. reference in view of the Melnick et al. reference and further in view of the Kwon reference. The rejection is respectfully traversed for at least the following reasons.

As discussed above, Applicants submit that the Nally et al. reference and the Melnick et al. reference fail to disclose or suggest all the features of claims 1 and 8, from which claims 16 and 19-20 directly depend. Applicants submit that the Kwon reference fails to overcome the deficiencies of the Nally et al. reference and the Melnick et al. reference, as applied to claims 1 and 8. Thus, for at least the reasons discussed above, Applicants submit that the

combination of the Nally et al. reference, the Melnick et al., and the Kwon reference fails to disclose or suggest all the features of claims 16 and 19-20. Accordingly, Applicants respectfully request that the rejection be withdrawn.

G. Entry of Amendment Requested

Applicants respectfully submit that the pending claims are in condition for allowance, and that the instant amendments overcome the rejections set forth in the outstanding Office action. Further, the instant amendment merely corrects for informalities noted by the Examiner. Accordingly, it is respectfully submitted that consideration of the instant amendment does not place an undue burden on the Examiner, and entry of the above amendment after final is respectfully requested.

H. Request for Interview

In the event that a personal interview has not been conducted prior to the Examiner's consideration of this amendment, Applicants respectfully request that the Examiner contact Applicants' undersigned representative and schedule a personal interview.

I. Conclusion

The above remarks demonstrate the failings of the Examiner's arguments with respect to the outstanding rejection, and are sufficient to overcome the rejections. However, these remarks are not intended to, nor need they, comprehensively address each and every reason for the patentability of the claimed subject matter over the applied prior art. Accordingly, Applicants *do not* contend that the claims are patentable solely on the basis of the particular claim elements discussed above.

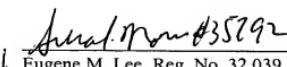
If the Examiner believes that additional discussions or information might advance the prosecution of the instant application, the Examiner is invited to contact the undersigned at the telephone number listed below to expedite resolution of any outstanding issues.

In view of the foregoing amendments and remarks, reconsideration of this application is earnestly solicited, and an early and favorable further action upon all the claims is hereby requested.



Date: September 13, 2007

Respectfully submitted,
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PETITION and
DEPOSIT ACCOUNT CHARGE AUTHORIZATION

This document and any concurrently filed papers are believed to be timely. Should any extension of the term be required, applicant hereby petitions the Director for such extension and requests that any applicable petition fee be charged to Deposit Account No. 50-1645.

If fee payment is enclosed, this amount is believed to be correct. However, the Director is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-1645.

Any additional fee(s) necessary to effect the proper and timely filing of the accompanying papers may also be charged to Deposit Account No. 50-1645.